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Art Unit: 3661

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1. A display device with a power interruption delay function, comprising:
 - a pulse width modulation controller for generating a pulse width modulation signal under the control of a microcomputer;
 - a current amplifier for amplifying current in response to the pulse width modulation signal from said pulse width modulation controller;
 - a horizontal/vertical processor for generating a square wave pulse signal under the control of said microcomputer;
 - a horizontal driver for generating a drive pulse signal in response to the square wave pulse signal from said horizontal/vertical processor;
 - a horizontal deflection coil for horizontally deflecting electron beams generated in said display device;
 - a S-correction capacitor connected in series between said horizontal deflection coil and a ground terminal, for correcting a linearity of center-to-left and right sides of a screen;
 - a horizontal output circuit for charging and discharging energy on said horizontal deflection coil and said S-correction capacitor in response to an output signal from said current amplifier and said drive pulse signal from said horizontal driver;
 - a horizontal/vertical processor constant voltage circuit for supplying a constant voltage to said horizontal/vertical processor in response to an input voltage; and
 - power interruption delay charging means for gradually lowering said input voltage to said horizontal/vertical processor constant voltage circuit when power supplied to said display device is interrupted.

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2. The display device as set forth in claim 1, wherein said power interruption delay charging means includes:

a polarity capacitor for performing a charging operation when power is supplied to said display device and a discharging operation when the power supplied to said display device is interrupted; and

a diode connected to said polarity capacitor, for preventing a voltage charged on said polarity capacitor from being discharged to a power supply circuit when the power supplied to the display device is interrupted.

3. A display device with a power interruption delay function, comprising:

a power supply circuit for converting a received commercial alternating current power into a direct current input voltage;

a horizontal deflection circuit under the control of a microcomputer, receiving said direct current input voltage, for horizontally deflecting electron beams generated in said display device; and

power interruption delay charging means for gradually lowering said direct current input voltage received by said horizontal deflection circuit when said alternating current power supplied to said power supply circuit is interrupted, said power interruption delay charging means comprising:

a polarity capacitor for performing a charging operation when said alternating current power is supplied and a discharging operation when said alternating current power is interrupted; and

a diode connected to said polarity capacitor, for preventing a voltage charged on said polarity capacitor from being discharged to said power supply circuit when said alternating current power is interrupted.

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4. The display device as set forth in claim 3, wherein said horizontal deflection circuit comprises:

a pulse width modulation controller for generating a pulse width modulation signal under the control of said microcomputer;

a current amplifier for amplifying current in response to said pulse width modulation signal generated by said pulse width modulation controller;

a horizontal/vertical processor for generating a square wave pulse signal under the control of said microcomputer;

a horizontal driver for generating a drive pulse signal in response to the square wave pulse signal from said horizontal/vertical processor;

a horizontal deflection coil for horizontally deflecting said electron beams;

a S-correction capacitor connected in series between said horizontal deflection coil and a ground terminal, for correcting a linearity of center-to-left and right sides of a screen;

a horizontal output circuit for charging and discharging energy on said horizontal deflection coil and said S-correction capacitor in response to an output signal from said current amplifier and said drive pulse signal from said horizontal driver; and

a horizontal/vertical processor constant voltage circuit for supplying a constant voltage to said horizontal/vertical processor in response to said direct current input voltage, said direct current input voltage being received through said power interruption delay charging means.

5. The display device as set forth in claim 4, wherein said current amplifier comprises:

a current amplification transformer having a primary coil and a secondary coil;

FIGURE
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a field effect transistor having its gate terminal connected to one terminal of said secondary coil;

one terminal of said primary coil being connected to an output terminal of said pulse width modulation controller through a capacitor and another terminal of said primary coil being connected to said ground terminal;

said field effect transistor having a drain terminal connected to a high voltage source and a source terminal connected in common to a second terminal of said secondary coil and one side of a pulse transformer;

said pulse transformer having a second side connected to one side of said horizontal deflection coil;

a first diode connected between said source terminal and said drain terminal; and

a second diode connected between said second terminal of said secondary coil and said ground terminal.

6. The display device as set forth in claim 5, wherein said horizontal output circuit comprises a horizontal output transistor having a collector terminal connected in common to said second side of said pulse transformer and said one side of said horizontal deflection coil, an emitter terminal connected to said S-correction capacitor and said ground terminal, and a base terminal connected to an output terminal of said horizontal driver for receiving said drive pulse signal.

7. The display device as set forth in claim 6, wherein said horizontal driver comprises:
a second field effect transistor having a gate terminal connected to receive said square wave pulse signal from said horizontal/vertical processor, a source terminal connected to said ground terminal, and a drain terminal;

a horizontal drive transformer having a primary coil and a secondary coil, said primary coil having one terminal connected to a voltage source through a resistor and a second terminal connected to said drain terminal of said second field effect transistor; and

said secondary coil of said horizontal drive transformer having one side connected to said base terminal of said horizontal output transistor and a second side connected to said ground terminal.

--8. A display device with a power interruption delay function, comprising:

a pulse width modulation controller for generating a pulse width modulation signal under the control of a microcomputer;

a horizontal deflection coil for horizontally deflecting electron beams generated in said display device;

a current amplification transformer having a primary coil and a secondary coil;

a field effect transistor having its gate terminal connected to one terminal of said secondary coil;

one terminal of said primary coil being connected to an output terminal of said pulse width modulation controller through a capacitor and another terminal of said primary coil being connected to a ground terminal;

said field effect transistor having a drain terminal connected to a high voltage source and a source terminal connected in common to a second terminal of said secondary coil and one side of a pulse transformer;

said pulse transformer having a second side connected to one side of said horizontal deflection coil;

a first diode connected between said source terminal and said drain terminal; and

a second diode connected between said second terminal of said secondary coil and said

ground terminal;

a H/V processor for generating a square wave pulse signal under the control of said microcomputer;

a horizontal driver for generating a drive pulse signal in response to the square wave pulse signal from said H/V processor;

an S-correction capacitor connected in series between said horizontal deflection coil and a ground terminal, for correcting a linearity of center-to-left and right sides of a screen;

a horizontal output circuit for charging and discharging energy on said horizontal deflection coil and said S-correction capacitor in response to an output signal from said current amplifier and said drive pulse signal from said horizontal driver;

a H/V processor constant voltage circuit for supplying a constant voltage to said H/V processor in response to an input voltage; and

power interruption delay charging means for gradually lowering said input voltage to said H/V processor constant voltage circuit when power supplied to said display device is interrupted.

9. The display device as set forth in claim 8, wherein said power interruption delay charging means includes:

a polarity capacitor for performing a charging operation when power is supplied to said display device and a discharging operation when the power supplied to said display device is interrupted; and

a diode connected to said polarity capacitor, for preventing a voltage charged on said polarity

capacitor from being discharged to a power supply circuit when the power supplied to the display device is interrupted.

10. The display device as set forth in claim 8, wherein said horizontal output circuit comprises a horizontal output transistor having a collector terminal connected in common to said second side of said pulse transformer and said one side of said horizontal deflection coil, an emitter terminal connected to said S-correction capacitor and said ground terminal, and a base terminal connected to an output terminal of said horizontal driver for receiving said drive pulse signal.

11. The display device as set forth in claim 10, wherein said horizontal driver comprises:
a second field effect transistor having a gate terminal connected to receive said square wave pulse signal from said H/V processor, a source terminal connected to said ground terminal, and a drain terminal;

a horizontal drive transformer having a primary coil and a secondary coil, said primary coil having one terminal connected to a voltage source through a resistor and a second terminal connected to said drain terminal of said second field effect transistor; and

said secondary coil of said horizontal drive transformer having one side connected to said base terminal of said horizontal output transistor and a second side connected to said ground terminal.--
